CLAIMS

1. A process for producing a laser engravable printing substrate, comprising the steps of: forming a photosensitive resin composition layer on a cylindrical support or a sheeted support; and applying light to the formed photosensitive resin composition layer to form a cured photosensitive resin layer having a thickness of 50 μm or more and 50 mm or less, wherein the light applied to the photosensitive resin composition layer includes light having a wavelength of 200 nm or more and 450 nm or less, and an illuminance of light at a surface of the photosensitive resin composition layer is 20 mW/cm^2 or more and 2 W/cm^2 or less when measured using a UV meter (trade mark "UV-M02" manufactured by ORC Manufacturing Co., Ltd.) and a filter (trade mark "UV-35-APR Filter" manufactured by ORC Manufacturing Co., Ltd.), and 3 mW/cm^2 or more and 2 W/cm^2 or less when measured using the UV meter and a filter (trade mark "UV-25 Filter" manufactured by ORC Manufacturing Co., Ltd.).

2. The process according to claim 1, further comprising a step of adjusting a thickness of the cured photosensitive resin layer and shaping a surface of the cured photosensitive resin layer after the step of applying light to the photosensitive resin composition layer to form the cured photosensitive resin layer.

3. The process according to claim 1, further comprising a step of applying light to the cured

photosensitive resin layer again after the step of adjusting the thickness of the cured photosensitive resin layer and shaping the surface of the cured photosensitive resin layer, wherein the light applied to the cured photosensitive resin layer again includes light having a wavelength of 200 nm or more and 450 nm or less, and the illuminance of light at the surface of the cured photosensitive resin layer is 20 mW/cm^2 or more and 2 W/cm^2 or less when measured using a UV meter (trade mark "UV-M02" manufactured by ORC Manufacturing Co., Ltd.) and a filter (trade mark "UV-35-APR Filter" manufactured by ORC Manufacturing Co., Ltd.), and 3 mW/cm^2 or more and 2 W/cm^2 or less when measured using the UV meter and a filter (trade mark "UV-25 Filter" manufactured by ORC Manufacturing Co., Ltd.).

4. The process according to claim 1, wherein the light is applied to the photosensitive resin composition layer or the cured photosensitive resin layer in the air.

5. The process according to claim 1, wherein the temperature of the photosensitive resin composition layer or the cured photosensitive resin layer is -50°C or more and 150°C or less.

6. The process according to claim 1, wherein the photosensitive resin composition layer is liquid at 20°C.

7. The process according to claim 1, wherein the photosensitive resin composition layer is solid at 20°C.

8. The process according to claim 1, wherein the cured photosensitive resin layer is a seamless layer.

9. The process according to claim 1, wherein an optical system for collecting light exists between a light source for applying light and the photosensitive resin composition layer.

10. The process according to any one of claims 1 to 7, wherein the printing substrate is a flexographic printing original plate on which a concavo-convex pattern can be formed by applying laser light, a letter press printing original plate, a gravure printing original plate, a screen printing original plate on which a perforated pattern can be formed by applying laser light, or a blanket for offset printing.

11. A laser engravable printing substrate, characterized in that in measurement of dynamic viscoelasticity of a photo-cured photosensitive resin using a non-resonant forced stretch vibration apparatus, a loss tangent (tan δ) defined by a ratio of a loss elastic modulus (E") to a storage elastic modulus (E') has a peak in a measurement temperature range of -100°C or more and 20°C or less, and when tan δ has a peak in a temperature range of -50°C or more and 20°C or less, the value of tan δ at the peak temperature is 0.87 or more and 1.5 or less, and when tan δ has a peak in a temperature range of -100°C or more and less than -50°C, the value of tan δ at the peak temperature is 0.7 or more and 1.5 or less.